THE CURRENT SCOPE OF SANITATION PLANS & DESIGN

Gloria D. Sclar, Rachel Stelmach, Tom Clasen and Kelly T. Alexander
Overview

- Introduction

Content

Country-level Sanitation Plans
- Methods
- Visual Framework
- Thematic Analysis

Sanitation Design
- Methods
- Common standards
  1. Design
  2. Amenities
  3. Number rules

- Recommendations for WHO Sanitation Guidelines
Introduction: Goal

To understand how countries and organizations are already addressing sanitation and health in order to help define the scope and context for the WHO Sanitation Guidelines
Introduction: Snapshot

If we took a snapshot of select countries and organizations, what sanitation themes would we see?

1. Which countries and organizations have developed sanitation plans?
2. What do these plans commonly address and what do they not address?
3. What kind of sanitation facilities are usually built and what are the standards used for design?
Methods: Document Search

1. Searched on PubMed, Google and Google Scholar
2. Terms: “sanitation guidelines” “sanitation plan” “government sanitation plan” “sanitation legislation”
3. Developed list of Country & Organizations (C&Os) based on:
   - Regional importance/representativeness
   - Documents available online
   - Language restriction

15 C&Os → 41 Documents
Map of C&Os

WHO Regions:
- Africa
- Region of the Americas
- South-East Asia
- Europe
- Eastern Mediterranean
- Western Pacific
Methods: Document Framework

- Guiding Principles
- Main Goals
- Overview of Sanitation Plan
- Funding Schemes
- Barriers
- Government Roles
- NGO, CSO, and IGO Roles
- Service Provider Roles
- Special Considerations
- Lessons Learned
- Monitoring and Evaluation
## Thematic Analysis of Frameworks

<table>
<thead>
<tr>
<th>Theme</th>
<th>Description</th>
<th>Counts (N = 15)</th>
<th>Countries &amp; Organizations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access to sanitation</td>
<td>Increase access to adequate sanitation</td>
<td>12</td>
<td>AusAID, Brazil, India, Indonesia, Kazakhstan, Malawi, Nepal, Peru, South Africa, Thailand, Uganda, USAID</td>
</tr>
<tr>
<td>Universal coverage</td>
<td>Access to sanitation for the entire country population</td>
<td>5</td>
<td>Brazil, Malawi, Nepal, South Africa, Thailand</td>
</tr>
<tr>
<td>ODF status</td>
<td>Achieve open-defecation free (ODF) status on a national level</td>
<td>2</td>
<td>India, Indonesia</td>
</tr>
<tr>
<td>Health improvements</td>
<td>Improve health and quality of life, including reducing sanitation-related and waterborne diseases</td>
<td>6</td>
<td>France, India, Indonesia, Kazakhstan, Malawi, Nepal</td>
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<tr>
<td></td>
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<td>• User preferences and behaviors</td>
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<td>• Sustainability</td>
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<td><strong>Guiding Principles</strong></td>
<td>• <em>Value of WASH (human right)</em></td>
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<td>• Community involvement</td>
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<td>• Demand-driven approach</td>
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<td>• Political commitment and coordination</td>
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<td>• Programs appropriate for local context</td>
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<td>• Hygiene promotion must be included</td>
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Overview of Sanitation Plan

Baseline survey assessment
Preparation & coordination
Implementation: services, infrastructure, operation & maintenance (O&M)
Side projects
M&E

Funding structure
Policy creation
Training staff
Community focus

Advocacy
Hygiene promotion
Sanitation market
ODF campaigning
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# Thematic Analysis of Frameworks

## Financial Scheme

### Centralized
- Service fees cover investment and O&M
- Fees based off what users are able to pay
- Government subsidies

### Household
- Revolving funds/microfinance for O&M
- Cross-subsidization
- Incentive systems

## Special Considerations

### Local context
- Vulnerable groups (gender, age, low-income)
- School sanitation
- Hygiene promotion
- Environmental vulnerability
- Community mobilization
## Thematic Analysis of Frameworks: Outliers

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<td>1. <strong>Coverage</strong></td>
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<td>3. Environment (pollutants)</td>
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<td>4. Behavioral (use)</td>
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- NGOs and CSOs  
- Service providers |
| **Monitoring and Evaluation (M&E)** | 1. Coverage  
2. Financial  
3. Environment (pollutants)  
4. Behavioral (use)  
5. Health (waterborne diseases) |
| **Challenges** | **Barriers**  
*Poor financing*  
Poor planning/organization  
Poor infrastructure  
Lack of demand  
**Lessons Learned**  
*Government commitment*  
Flexibility  
Adjust finances  
Collaboration  
Capacity building |
Sanitation Design
Methods: Documents Search

- Searched on Google, Google Scholar and Organization websites (SNV, IRC, CRS, WEDC, WSP etc.)
- Terms: “latrine AND design,” “toilet AND design,” “latrine construction,” “how to build a latrine,” “latrine standards”

C&O Documents Analyzed $\rightarrow$ 11

ALL SETTINGS
- Emergency settings
- Health care facilities
- Workplaces
- Construction sites
- Schools
- Households
- Military camps
- National regulations
Types of Facilities

**Short Term**
- Open defecation field
- Trench latrines
- Portable toilets

**Long Term**
- Simple pit latrines
- Ventilated improved pit latrine (VIP)
- Double-pit latrines
- Vault latrine
- Composting latrine
- Septic tank latrine
- Pour-flush latrine
Design and Construction

- Size of latrine
- Superstructure qualities
- Materials used
- Squat slab, lid cover, toilet
- Pit dimensions/construction
- Ventilation (insects)
- Lighting

Restaurant bathroom - Tajikistan
Location and Coverage

Distance Rules:
≤50m from home
≥30m from groundwater source
Bottom of latrine ≥1.5m above water table

Coverage: #latrines / #people
1:10 workplace, construction site
1:20 communities
3x more latrines for women
Handwashing & Amenities

- Menstrual hygiene management resources
- Hand washing
- Anal cleansing
- Toilet paper available
- Trash receptacles
- Adequate water for pour flush latrines
- ‘Looscaping’

Portable toilet design
Maintenance and Cleanliness

- Practices of latrine users
- Repairs
- Method of disposal
- Time before emptying
- Frequency of cleaning
- Quality of cleanliness

Generic ‘gas station’ bathroom
## Recommendations for: WHO Sanitation Guidelines

<table>
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<tr>
<th>Category</th>
<th>Recommendations</th>
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</table>
| **Health Outcomes**               | • Did not measure health impact due to sanitation  
• SanGuidelines should identify health indicators                                         |
| **Local Context**                 | • Adapted large-scale programs to local contexts  
• SanGuidelines should reiterate the importance of adaptation                                |
| **Stakeholder Commitment**        | • Need for involvement and cooperation of key actors  
• SanGuidelines should consult stakeholder groups to ensure guidelines enhance intersectoral collaboration |
| **Sanitation Design**             | • Design plans cross-referenced each other  
• SanGuidelines should review the evidence that supports these standards                     |
| **Resource Scarcity**             | • Financial barriers cited as a major problem  
• SanGuidelines could provide guidance on adapting sanitation systems to low-resource settings |
Acknowledgements!

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